



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Xiong Zhang et al.

Docket No. 061472-0269224

Serial No.: 09/700,236

Group Art Unit: 1765

Filing Date: May 9, 2001

Examiner: Song, Matthew J.

For: **CRYSTAL GROWTH METHOD FOR GROUP-III NITRIDE AND RELATED COMPOUND SEMICONDUCTORS**

AMENDMENT

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

In response to the Office Action mailed May 8, 2002, Applicants request that the application be amended as follows:

In The Claims

Please amend the claims as follows:

- 1 1. (Once amended) A crystal growth method for the group-III nitride compound
2 semiconductors, comprising:
3 forming a MOCVD-grown periodic or non-periodic buffer having at least three
4 layers with each layer having a thickness in the range from 2 nm to 6 nm on a substrate at a first
5 temperature in which the layers alternate between at least two types of compound
6 semiconductors A and B different from each other in lattice constant, energy band gap, layer
7 thickness, and composition; and
8 forming a MOCVD-grown layer of a group-III nitride compound semiconductor
9 on the formed multi-layered buffer, wherein said layer of a group-III nitride is formed at a
10 temperature higher than said first temperature.
- 1 2. (Once amended) A crystal growth method according to claim 1, further
2 comprising doping a n- or p-type in said group-III nitride compound semiconductor.
- 1 3. (Once amended) A crystal growth method according to claim 1, wherein the
2 compound semiconductors A and B are alternatively and periodically grown by MOCVD on said
3 substrate to form said multi-layered buffer.